Journal of the American College of Cardiology
© 2012 by the American College of Cardiology Foundation
Published by Elsevier Inc.

Vol. 60, No. 17, 2012
ISSN 0735-1097/$36.00
http://dx.doi.org/10.1016/j.jacc.2012.05.055

IMAGES IN CARDIOLOGY

Apical Hypertrophic Cardiomyopathy With and Without Aneurysm

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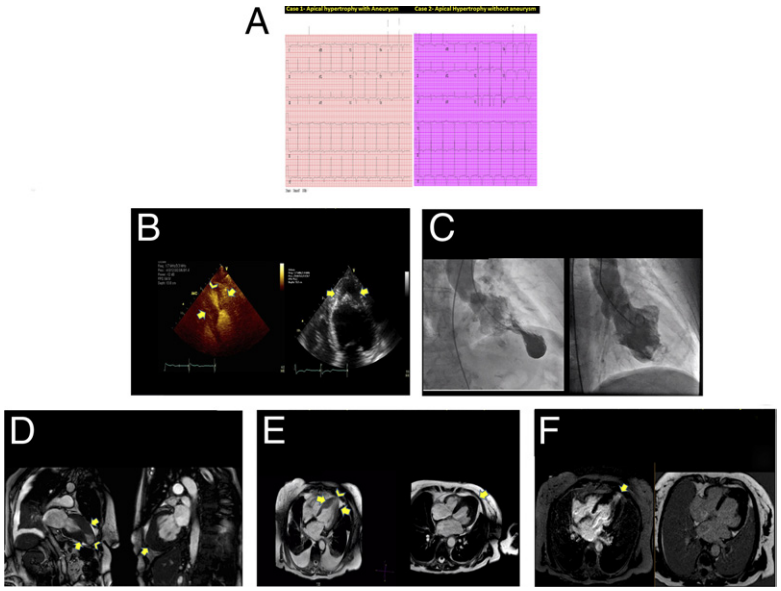

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The Authors report that they have no relationships relevant to the contents of this paper to disclose.
Manuscript received April 4, 2012; revised manuscript received May 8, 2012, accepted May 8, 2012.

We present 2 cases of apical hypertrophic cardiomyopathy (HCM) with similar presentations but different imaging appearances. Case #1 is an 82-year-old female with exertional dyspnea and mildly elevated troponin. Electrocardiogram (ECG) **(A, left panel)**, echocardiogram (with contrast) (**B, left panel**, Online Video 1), cardiac catheterization with left ventriculogram (**C, left panel**, Online Video 2), and cardiac magnetic resonance imaging (MRI) (**D and E, left panels**, Online Videos 3 and 4) excluded clinically significant coronary stenosis but confirmed apical HCM with an apical aneurysm and scar (**F, left panel**). Case #2 is a 70-year-old female with exertional dyspnea. Corresponding investigations (ECG, echocardiogram without contrast, left ventriculogram, and cardiac MRI, **A to F**, and Online Videos 1, 2, 3, and 4 right panels) in case 2 confirmed apical HCM without an aneurysm or significant scar on post-gadolinium delayed enhancement imaging. Apical HCM generally has a benign prognosis (1). The influence of an associated aneurysm on the prognosis of the apical HCM remains unknown. However, HCM with apical aneurysms are associated with considerable morbidity and mortality (2). Noncontrast echocardiography may be limited in the assessment of the ventricular apex necessitating a comprehensive assessment with echo contrast or cardiac magnetic resonance when clinical suspicion of apical HCM exists. MRI in addition can provide unique information about myocardial scar.

REFERENCES

1. Eriksson MJ, Sonnenberg B, Woo A, et al. Long-term outcome in patients with apical hypertrophic cardiomyopathy. J Am Coll Cardiol 2002;39:638–45.
2. Maron MS, Finley JJ, Bos JM, et al. Prevalence, clinical significance, and natural history of left ventricular apical aneurysms in hypertrophic cardiomyopathy. Circulation 2008;118:1541–9.